Contract Number 14-16-0001-92511

Final Report - Shasta River Riparian Project (Easton Ranch)

Abstract:

This project was designed to promote fencing and protection of vulnerable riparian zones, demonstrate cooperative problem solving benefiting landowners and fisheries resources and to protect and restore salmonid habitat on the Shasta River.

To these ends 330 feet of 5 strand barbed wire fencing were constructed protecting approximately 1,200 feet of river bank. The landowner signed an agreement not to allow grazing for a ten year period in the exclusion area. Willow slips and tules were planted in the area to accelerate riparian recovery.

Introduction:

The objectives of this program on the Easton Ranch were to:

- A. Promote fencing and protection of vulnerable riparian zones by using this site as an example to other landowners
- B. Demonstrate how cooperative problem solving can benefit both the landowner and the fishery resource.
- C. To protect and restore salmonid habitat on the Shasta River

To meet these objectives several tasks were designed and implemented which included construction of riparian protection fencing and willow cuttings and tule plantings to accelerate riparian recovery.

Description of study area:

The Easton ranch is approximately 1 mile west of the Grenada-Montague Road Shasta River bridge. The river is slow flowing with a 200 foot long 4 foot high cutbank in this section. Some large willow trees still exist in the area.

The river is confined by ancient lava flow walls with a flood plain 50 to 500 feet wide.

The Terry Ranch, located directly across form the Easton Ranch, has already been fenced for riparian protection under a similar State of California program.

Methods and Materials:

Standard fence construction methods were used to construct a 5 strand 4 point barbed wire fence. Heavy gage metal "T" fence posts were placed every 10-12 feet with wood 4x4s after every 5th metal post. "

Willow mats were constructed and placed to protect the cutbank. Willow mats consisted of 1-5 inch diameter live willows from 4 to 6 feet in length bundled together. Bundles were placed parallel to the river and staked in place with metal fence posts.

Willow cuttings were planted 1 for every 3 square feet along the 330 fenced area both on the cut slope and throughout the protected riparian area.

The landowner has signed an agreement to not allow cattle grazing in the 330 feet of fence protected area and has agreed not to graze in the remaining 900 feet of riparian area along the river.

Results and Discussion:

The site has been used by the Shasta River CRMP as an example of riparian fencing in presentations to both landowners and State and Federal agencies.

The directly upstream landowner has agreed to fencing his riparian area, partially due to the example set by this project.

The riparian area is establishing species which had been removed by grazing. Approximately 80% of all planted willow cuttings survived into summer, we expect a 25% survival rate into next growing season. Several willow mat sticks have sprouted and seem to be growing.

A pleasant and somewhat unexpected surprise was the excellent survival of transplanted tules at the base of the mats. The tules have survived several high water events and seem to be flourishing, providing excellent protection for the matted cut bank. Parallel bundles have provided much better protection than previous perpendicular placed mats in the Shasta basin. Parallel bundles seem especially effective used under the over hanging cut banks.

Summary and conclusions:

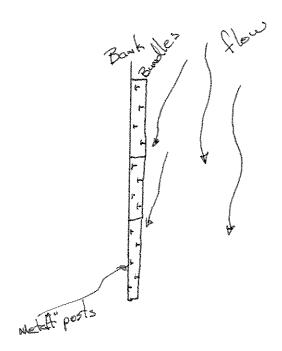
All project objectives have been met.

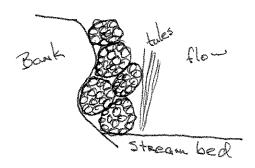
This project has already and will continue to be used by the Shasta River CRMP as an example of the benefits of riparian protection. Although only 330 feet of river were fenced the landowner has agreed to provide the full 1250 feet of river riparian area with protection.

Other landowners have viewed the site and are adapting the ideas to their property.

Parallel bundle mats have demonstrated their effectiveness and will be used at other sites, particularly in overhanging bank conditions.

Riparian habitat has improved and will continue to be protected along this stretch of the Shasta River.





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Appendix 1

Non-Federal and volunteer contributions

- 1) Use of approximately 50 willow slips harvested under State of California fisheries grant (FG 1240) in early 1993 value approximately \$15.00
- 2) Assistance to fence construction by landowner
 (construction materials and labor)
 value approximately \$45.00
- 3) Additional planting of willow and other species in late 1993 under State of California fisheries grant (FG2189IF) value - \$1,000